

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of : **Docket No. 0074-524644**
Alan James Coulson :
U.S. Appln. No. 10/550,633 :
Filed: 07/12/2006 :
Confirmation No. 1956 :
For: Method and Apparatus for Improving :
 the Performance of Pilot Symbol Assisted :
 Receivers in the Presence of Narrowband :
 Interference :

Commissioner for Patents
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

In accordance with the provisions of 37 C.F.R. §1.56, Applicant hereby submits copies of the documents, other than U.S. patents and/or published U.S. applications, listed on the attached PTO/SB/08A.

Please note that this application is the U.S. national phase of International Patent Application No. PCT/NZ2004/000060, filed 24 March 2004. An International Search Report was established for this international application and a copy of the International Search Report was received by the U.S. Patent and Trademark Office from the International Bureau. References cited in the International Search Report are also listed on the PTO/SB/08A and copies of those references, other than the U.S. patents and published U.S. applications, are also enclosed.

Application No. 10/550,633

Filed: 07/12/2006

Confirmation No. 1956

Applicant respectfully requests full and proper consideration of the listed information during examination of the application, and that the listed information be printed on any patent which issues therefrom.

Respectfully submitted,

DANN, DORFMAN, HERRELL AND SKILLMAN
A Professional Corporation

By Vincent T. Pace
VINCENT T. PACE
PTO Registration No. 31,049

Tel.: 215-563-4100

Fax: 215-563-4044

e-mail: vpace@ddhs.com

Enclosure: Form PTO/SB/08A and 08B

Copies of listed documents (other than US patents/published patent applications)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	10/550,633
Filing Date	07/12/2006
First Named Inventor	Alan James Coulson
Art Unit	n/a
Examiner Name	n/a
Attorney Docket Number	0074-524644

U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
		EP 1 263 179	12/04/2002	Ludent Technologies Inc.		
		WO 02/069515	09/06/2002	Magis Networks, Inc.		
		WO 02/23781	03/21/2002	Industrial Research Ltd		
		WO 02/101953	12/19/2002	Broadcom Corporation		
		WO 03/090422	10/30/2003	Conexant Systems, Inc.		
		EP 1 176 731	01/30/2002	Texas Instruments Inc.		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	10/550,633
		Filing Date	07/12/2006
		First Named Inventor	Alan James Coulson
		Art Unit	n/a
		Examiner Name	n/a
Sheet	2	of	2
		Attorney Docket Number	

U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
		EP 1 202 468	05/02/2002	HITACHI KOKUSAI ELECTR		
		EP 0 721 264	07/10/1996	NTT MOBILE COMMUNICAT		
		WO 99/05815	02/04/1999	GLOBESPAK SEMICONDUCT		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Complete if Known**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 2

Application Number 10/550,633

Filing Date 07/12/2006

First Named Inventor Alan James Coulson

Art Unit n/a

Examiner Name n/a

Attorney Docket Number 0074-524644

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		M.G. Amin et al., "Optimum Interference Excision in Spread Spectrum Communications Using Open-Loop Adaptive Filters," IEEE, v. 47, no. 7, 07/1999	
		R. Nilsson et al., "A Narrow-Band Interference Canceller for OFDM-based Systems," 4th Euro. Personal Mobile Com. Conf., 02/2001	
		G.J. Saulnier et al., "Performance of a Spread Spectrum OFDM System in a Dispersive Fading Channel with Interference," IEEE, 1998	
		J.A. Young et al., "Performance Metrics for Windows Used in Real-Time DFT-Based Multiple-Tone Frequency Excision," IEEE, 1999	
		S. Kapoor et al., "Interference Suppression in DMT Receivers Using Windowing," IEEE, 2000	
		L.B. Milstein et al., "An Analysis of a Real-Time Transform Domain Filtering Digital Communication System-Part I: Narrow-Band Interference Rejection," IEEE, 1980	
		S.D. Sandberg, "Adapted Demodulation for Spread-spectrum Receivers which Employ Transform-Domain Interference Excision," IEEE, 1995	
		G. Carron et al., "Comparison of Two Modulation Techniques Using Frequency Domain Processing for In-House Networks," IEEE, 2001	
		K. Witrisal, "Impact of DC-offsets and Carrier Feed-through on Correlation-based Frequency Synchronization for OFDM," 6th Intl. OFDM Workshop, 2001	
		D. Gerakoulis et al., "An Interference Suppressing OFDM System for Wireless Communications," IEEE, 2002	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Complete if Known**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

2

of

2

Application Number	10/550,633
Filing Date	07/12/2006
First Named Inventor	Alan James Coulson
Art Unit	n/a
Examiner Name	n/a

Attorney Docket Number 0074-524644

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		M. Kuhn et al., "Linear block codes for frequency selective PLC channels with colored noise and multiple narrowband interference," IEEE, 2002	
		R.W. Lowdermilk et al., "Interference Mitigation in Orthogonal Frequency Division Multiplexing (OFDM)," IEEE, 1996	
		J.G. Proakis, "Interference Suppression in Spread Spectrum Systems," IEEE, 1996	
		T.K. Blankenship, "Design and Implementation of a Pilot Signal Scanning Reiever for CDMA Personal Communication Services Systems," May, 1998	
		S.J. Howard, "Narrowband Interference Rejection Using Small FFT Block Sizes," IEEE, 1992	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 36 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.